MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 35 Issue 2, 2025, Pages: 1478-1484

Emerging Leadership and Managerial Skills and Competencies in the Age of AI

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Abstract

Artificial intelligence (AI) is evolving from a set of discrete tools into an autonomous partner in organizational work. This fundamental shift is altering the scope of managerial judgment, the structure of team collaboration, and the nature of accountability. This article examines the emerging leadership and managerial competencies required to navigate this new era, with a specific focus on large Indian organizations. It argues that competence in an AI-intensive environment converges on four interlocking themes: (1) understanding and managing AI systems, (2) responsible data and ethical risk governance, (3) building a continuous learning architecture, and (4) effectively integrating people and technology to co-produce outcomes. These themes are developed into role-specific narratives for top executives, senior managers, and middle managers, considering India's unique policy landscape and sectoral realities. The article concludes that the wise governance of AI autonomy is the new cornerstone of effective management, essential for turning technological potential into sustainable organizational value and public trust.

Keywords: Artificial Intelligence (AI), Leadership, Managerial Competencies, Human-AI Collaboration, Skill Development

From Tools to Teammates

The world of technology is in the middle of a historic change, transforming the relationship between people and machines. For years, our digital tools were passive, doing only what we told them to do. A calculator would calculate, and a word processor would format, all under the direct command of a person. We are now moving past this era of instruction-based tools and into an age of goal-based independence. This new world is being defined by intelligent systems that don't just follow commands but can understand high-level goals and act on their own to achieve them. This shift from passive tools to proactive partners is reshaping the modern workplace and introducing a powerful new idea: artificial intelligence that can act on its own.

Across large companies, the question about AI has changed from "what tasks can it automate?" to "what can we trust it to do alongside us?" When AI systems can draft reports, analyze data, monitor operations, and even start taking action, the job of a manager changes completely. Meetings can be summarized automatically before they even end, performance dashboards can write themselves, and AI assistants in procurement can research suppliers and suggest the best options. In human resources, AI can predict when an employee might leave and draft a plan to retain them. The daily pace of office work is no longer a step-by-step process controlled by people; it's a rhythm that moves between human supervision and the AI's independent work.

This has two major consequences. First, a company's productivity now depends on how well its internal knowledge is shared. If a company has powerful AI but its teams don't share information, performance hits a wall. But in companies where knowledge sharing is a core part of the culture, the impact of AI

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grows exponentially. Second, managers now spend less time preparing work and more time evaluating it. The most important part of their job is no longer writing the first draft, but deciding whether to accept, challenge, or investigate what an AI has produced. This is judgment work—it requires context, ethics, and an understanding of the company's reputation and politics—not just technical skill.

For companies in India, these changes are happening within a unique national context. India's public digital infrastructure (like Aadhaar and UPI), a strong national AI strategy, and rapidly changing industry rules are paving the way for AI to be adopted on a massive scale. This comes with high public expectations for fairness, safety, and building the nation's capabilities. Recent analysis in India sees AI skill as a national priority, calling for investment in data, talent, and governance to make sure AI is used widely and responsibly (Nandi, Chandola, & Sarma, 2025).

This article accepts that context and asks a more focused, critical question: what are the emerging skills and competencies that leaders at different levels must develop to make work with AI safe, valuable, and a source of continuous learning? The answer, as argued in this paper, is not about listing technologies, but about redefining the core capabilities needed for different leadership roles.

Understanding AI That Can Act on Its Own

To understand this new landscape, we first need to be clear on what makes an AI system "agentic," or able to act on its own. At its core, an AI agent is a system that can act independently and proactively to achieve goals with very little human supervision. The key difference is the shift from being reactive to being proactive.

Traditional software is reactive; it follows a set of pre-defined rules or responds to step-by-step human commands. An AI agent, on the other hand, is designed to anticipate needs, spot patterns, and take action to solve problems before they get bigger. For example, a traditional logistics program might report that a shipment is delayed. An AI logistics agent would proactively monitor weather, predict the delay, and reroute the shipment on its own to avoid the problem.

This is also what makes these systems different from the Generative AI (like ChatGPT) that many of us are familiar with. While AI agents often use generative AI as their "brain" to think and plan, their purpose is different. Generative AI is built to *create* new content—like text, images, or code—in response to a prompt. An AI agent is built to *act* and *get things done*. It uses the plans and reasoning it generates to execute tasks and interact with other software to complete a complex, multi-step goal. A generative AI can write a marketing email; an AI agent can write the email, send it, track who opens it, and automatically adjust the next steps of the marketing campaign based on the results.

This changes the relationship between people and computers. Previous technologies were tools that extended our abilities under our direct command. AI agents are more like autonomous assistants to whom we delegate goals, not just tasks. The user's role shifts from a micromanager to a leader who sets high-level objectives and trusts the system to figure out the best way to achieve them.

The Core Skills for an AI-Powered Workplace

In companies that use AI heavily, being competent is not just about knowing how to use the systems; it's about having the practiced judgment to integrate them into how work gets done. Four connected skills keep coming up in studies and observations from the field:

1. **Understanding and Managing AI.** Leaders need to know what AI agents can do, how to combine their skills to achieve a goal, and when to step in and overrule them. In high-volume e-commerce, for example, AI agents now automate routine tasks like managing inventory, making product

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recommendations, and handling customer questions. This creates new roles for people focused on coordinating and overseeing the AI. The key skill here is less about coding and more about knowing how to assemble a team of AI and human workers (Apriliani et al., 2025).

2. **Responsible Data Management and Ethical Oversight.** As AI-generated information spreads faster, so do errors and potential harm. A core skill for leaders is now ensuring the data used by AI is high-quality and comes from a reliable source. It also means putting practices in place to ensure fairness, allowing people to challenge AI decisions, and having clear rules for what to do when AI systems make mistakes or disagree (Ashtikar & Manoharan, 2025).
3. **Building a Learning Organization.** The value of AI grows when the organization itself is good at learning. This includes sharing knowledge, documenting best practices, and continuously training employees. Research in knowledge-based companies shows that skills in knowledge-sharing are a key reason why AI improves productivity (Andayesh & Kianrad, 2025). In India, studies of professionals like accountants show that being ready for technology—having both digital skills and a positive attitude toward innovation—is a strong predictor of being able to use AI effectively in their daily work (Madan & Chawla, 2025).
4. **Integrating People and Technology.** This skill involves redesigning jobs, rewards, and responsibilities so that humans and AI can work together to produce better results without weakening human expertise. There is a risk of "skill erosion"—where people outsource too much of their thinking to AI models—unless teams make a conscious effort to keep practicing their core skills (Enthed & Lorek, 2025).

These skills don't look the same for everyone; they show up in different ways depending on a leader's level in the company. The following sections describe how they apply to three levels of leadership in large Indian organizations.

What Top Leaders (The C-Suite) Need to Do

For boards, CEOs, and other C-suite leaders, AI has become a challenge of managing a portfolio of automated systems. The most important skill is the ability to decide where to allow AI to act on its own, how to measure its performance, and when to pull back control across a diverse company.

First, they must provide strategic clarity about goals, not tools. Top leaders need to define what the company is trying to achieve with AI and what kinds of failures are unacceptable (for example, a breach of public trust in a public sector company or harm to customers in a consumer business). A good AI strategy clearly marks out "red zones" (no AI decisions without human supervision in critical situations), "yellow zones" (AI can assist, but a human must be available to step in), and "green zones" (AI can act on its own, but its actions are audited). This responsibility cannot be delegated; it is a core part of defining the company's purpose.

Second is developing foresight and a clear appetite for risk. When companies treat foresight as a core capability—by systematically scanning for trends, exploring alternative future scenarios, and investing in their people—they avoid fragile AI projects and create more options for the future (Norouzi et al., 2025). In India's policy environment, where building national capability and serving the public good are clear goals (Nandi et al., 2025), top leaders must be ambitious in building their AI capabilities while being conservative about public risks.

Third is building data trust and public legitimacy. For public sector undertakings (PSUs) in particular, public trust is a critical asset that can be lost through non-transparent AI-driven decisions. Executive-level skills include sponsoring programs to ensure data quality, demanding independent audits of AI systems, and creating transparent processes for addressing complaints. For private companies, the equivalent is brand trust; reputational damage from AI failures now travels much faster than any attempt to fix it.

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Fourth is designing a talent strategy for an AI-powered firm. Executive teams should create systems where learning builds on itself. This could include apprenticeship models that keep humans involved in the early stages of thinking, rotational programs that give managers experience in overseeing AI, and reward systems that recognize employees for sharing their knowledge. The link between knowledge sharing and the productivity gains from AI is too strong to be left to chance (Andayesh & Kianrad, 2025).

Finally, leaders must engage with the broader ecosystem. In sectors like payments, insurance, and logistics, where public platforms, regulators, and suppliers are all interconnected, the executive's role extends beyond the company to building coalitions. This can involve creating shared testing environments, data-sharing agreements, and common standards for how AI should behave.

What Senior Managers Need to Do

If top leaders decide where the organization is going with AI, senior managers decide how it will get there. Their core skill is putting AI-driven workflows into practice by setting up operations with clear service levels, monitoring, and clear paths for handling issues that AI cannot solve on its own.

The first element is designing how work flows between people and AI. Senior managers design the interplay of data, business rules, and AI models so that tasks go to the right place at the right time. In customer service, for example, routine questions may be handled by chatbots, while high-stakes or confusing cases are sent to human experts. The skill is in deciding where to place human checkpoints and how to learn from the exceptions.

The second is measuring what matters. Traditional metrics like speed and volume still count, but work with AI requires new metrics that measure the quality of judgment: was an issue escalated to a human appropriately? What was the cost of a wrong decision? And how long does it take to figure out why an AI did something? Senior managers build the dashboards that executives need, but they also create the stories around performance: what did the AI do, where did it help, where did it fail, and how did people respond?

Third is developing skills and readiness. Evidence from Indian professional services suggests that digital literacy and an openness to innovation are strong predictors of how well AI is adopted (Madan & Chawla, 2025). Senior managers are therefore responsible for the practical steps to get their teams ready. This can include creating practice groups for writing effective AI prompts, shadowing programs where humans review AI output, and rotating high-performing employees into roles overseeing AI to set high standards.

Fourth is establishing ethical guardrails and incident response plans. Senior managers must create clear playbooks for what to do when an AI gives a wrong answer, when a supplier's AI model starts to perform poorly, or when an internal data source is corrupted. In design and knowledge work, relying too heavily on AI-generated drafts can weaken professional skills unless teams deliberately set aside time for skill-building tasks; that is a management problem, not a technology problem (Enthed & Lorek, 2025).

Finally, they must interface with regulators and auditors. Especially in banking, insurance, and utilities—sectors central to both PSUs and large private companies—senior managers are responsible for turning policy into practice. This includes keeping registers of AI models, providing notes explaining how they work, and creating clear disclosures for customers. Foresight-oriented models for regulated sectors highlight the role of such managers in connecting high-level strategy to safe day-to-day operations (Norouzi et al., 2025).

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What Middle Managers Need to Do

Middle managers are on the front line, where AI's independent work meets the real world. Their key skill is practical orchestration: assigning work across humans and AI, spotting problems early, and maintaining team morale and professional standards.

A first skill is crafting effective prompts and policies. Frontline leaders learn to translate their local knowledge into instructions for the AI: which data sources are trustworthy, what "good enough" looks like for a first draft, and when to demand that the AI cite its sources. In e-commerce, for instance, middle managers set the boundaries for recommendation engines and customer service assistants, then monitor their real-world impact on sales and complaints (Apriliani et al., 2025).

Second is leading through exceptions. When an AI can't handle a situation and escalates it, a person must decide what to do quickly. The quality of those decisions depends on a culture where people are rewarded for catching problems, not punished for interrupting the workflow. Studies of digital change in India emphasize the need to design for "technostress," redesign jobs thoughtfully, and provide continuous training; middle managers are the ones who make that happen in a humane way (Ashtikar & Manoharan, 2025).

Third is circulating knowledge. The link between knowledge sharing and productivity is not abstract; on the front line, it looks like sharing annotated examples, discussing "what the AI got wrong today," and spreading micro-lessons across teams and shifts (Andayesh & Kianrad, 2025).

Finally, they must identify and promote new talent. AI changes the skills that are most valuable. Frontline managers must be able to recognize new forms of excellence—like employees who are great at reviewing AI work, careful with data, or reliable at handling incidents—and help them move into roles where they can have a bigger impact. The literature on HR and talent management anticipates exactly these kinds of shifts, with predictive analytics, personalized learning, and new roles focused on human-AI collaboration (Murmu, 2025).[1]

The Indian Context: Opportunities and Responsibilities

India’s scale and its public digital infrastructure create both huge opportunities and significant responsibilities. Policy experts frame AI adoption as a national capability that requires interoperable data systems, digitally skilled talent, and governance that fits Indian conditions (Nandi et al., 2025). For PSUs, which are responsible for essential services, this creates a strong need for legitimacy. This means AI systems must be auditable, there must be transparent ways to address grievances, and their use must align with the public interest. For private companies, the calculation is similar: be bold in building capabilities but cautious about reputational risk, and be ready to work with public platforms.

Studies from different sectors reinforce these points. In accounting and finance, research from India and around the world agrees on the need for digital skills, data analytics, and AI literacy to be built into education and professional practice (Robalo & Abu-Nabah, 2025; Madan & Chawla, 2025). In e-commerce, research highlights the automation of routine tasks alongside new work in oversight and data analysis (Apriliani et al., 2025). In organizational design, foresight work in regulated industries emphasizes governance, collaboration, and digital innovation as a systemic capability (Norouzi et al., 2025). And in creative fields, scholars warn that over-relying on AI-generated output can weaken the very skills that companies are trying to build (Enthed & Lorek, 2025).

These threads suggest a uniquely Indian approach to AI competence: one that is aware of public value. Leaders at all levels must treat AI capability as a civic technology as much as a corporate one—

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especially in PSUs, where citizens experience AI not as a product feature but as a condition of accessing essential services.

Key Risks and How to Manage Them

The central risk of working with AI is not just that it will make errors; it is that our own skills will weaken. If people never practice the hard parts of their jobs—like scoping a project, breaking down a problem, and checking the work—their skills will decay. Design research has documented this "skill erosion" in creative work when teams default to AI-generated options and cut short their own exploration (Enthed & Lorek, 2025).[2] The way to prevent this is through deliberate practice: teams can keep humans in the loop for initial planning, run "no-AI drills," and regularly try to reconstruct how an AI came up with its proposals.[4]

A second risk is treating AI governance as a compliance checklist rather than as a real operational skill. Effective organizations build governance into their daily work. This can include keeping registers of AI decisions, having transparent paths for escalating issues, and creating data quality rituals where owners sign off on where data comes from. It also involves foresight practices that prepare people, not just systems, for unexpected events (Norouzi et al., 2025).

A third risk is creating inequality in skills. AI adoption depends on readiness, and studies in India have noted that digital literacy and an openness to innovation are uneven across different regions and company sizes. This can lead to uneven benefits from AI (Madan & Chawla, 2025). Building competence, then, is partly about creating equal opportunities. This means creating on-ramps for teams outside of major cities, investing in bilingual AI interfaces and documentation, and recognizing that readiness is something that must be built, not assumed.

Summary Table: Skills by Leadership Level

Leadership Level	Core Skill Narrative	Illustrative Practices
Top Leaders (C-Suite)	Deciding where to use AI across the company while protecting public trust and legitimacy.	Creating a map of "red/yellow/green" zones for AI autonomy; sponsoring data quality and audit programs; building coalitions with regulators and partners.
Senior Managers	Putting AI-driven operations into practice with a focus on measuring the quality of judgment.	Designing workflows; setting thresholds for when a human must intervene; creating metrics for "explainability"; developing incident response plans; running practice groups for AI skills.
Middle Managers	Practically managing human-AI teams on the front line while maintaining professional skills.	Crafting effective AI prompts and policies; leading when AI fails; sharing micro-lessons and case studies; identifying talent for new AI-related roles.

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Conclusion

As AI systems become agents—capable of starting tasks, coordinating work, and learning—the most important skill in large organizations becomes the ability to govern this autonomy wisely. In India's PSUs and private companies, this skill is public-facing: it must turn the power of scale into trust. The evidence, though still emerging, consistently points in four directions. First, managing AI is now a core managerial skill. Second, responsible data management and ethical oversight are not optional add-ons but are central to creating value. Third, building a learning organization—through knowledge sharing, upskilling, and foresight—multiplies AI's impact. Fourth, thoughtfully integrating people and technology preserves human expertise even as AI speeds up work.

The work ahead for researchers is to measure these skills across different sectors and study how they contribute to a company's performance and public trust. The work for practitioners is to cultivate them as real capabilities, embedded in job roles and reinforced by rewards. In a world of ever-present AI, good management is once again what it has always been at its best: the practice of judgment in the face of uncertainty—now with new, intelligent teammates at the table.

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MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 35 Issue 2, 2025, Pages: 1478-1484

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